



**KSA**



Sugar Land Regional Airport

# Phasing Workshop

Runway 17/35 Rehabilitation  
Project

May 8, 2024

# STAKEHOLDER TEAM



## Peter Van Pelt Airport/FBO Operations Advisor

**21** Years of Airport Management Career

**7** airports - including **6** years as Addison Airport Manager  
**3** years as Aspen Airport Manager.

Extensive experience in tenant coordination & airport special events including:

AirFair Addison '87, '89, '90

And the Grand Prix of Dallas in Addison '90, '91.

Numerous Airport Improvement Projects



## **Michael Mallonee, M.A.S.** **Stakeholder Support/ Lead Airport Planner**

**17** Years of Aviation Experience – Airport Planning

**40+** Airports - **Master Planning, Phasing, CIP, Public Involvement**

Airport Planning Experience

Austin Bergstrom International Airport

Fort Worth Spinks

Tyler Pounds Regional Airport

New Braunfels Regional Airport

Denton Enterprise Airport

# DESIGN TEAM



## Craig Phipps, P.E. Principle-in-Charge, Quality Control

**30** Years of Aviation Experience – Design and Construction

**50** Airports, **\$285** million in Improvements

Experience at Sugar Land Regional

### **2001 to Present**

2001 ALP Update

East G.A. Complex

Terminal Apron

Taxilane J

RW 17-35 Rehabilitation, HIRLs

Shoulders



## Craig Clairmont, P.E., LEED® AP Project Manager

**31** Years of Aviation Experience

**50** Airports, **\$280** million in Improvements

Runway Reconstruction and Rehabilitation Projects (Construction)

Sugar Land - Parallel Taxiway Relocation (Current)

Victoria - Rehabilitate Runways 13-31 and 18-36 (2020)

Palacios – Rehabilitate Runway 13-31 (2020)

Nashville International – Rehabilitate Runway 2L-20R (2017)

Nashville International – Rehabilitate Runway 2C-20C (2016)

Nashville International – Rehabilitate Runway 2R-20L (2015)

Myrtle Beach International – Reconstruct Runway 18-36 (2015)



## **Nathan Mikell, P.E.**

### **Deputy Project Manager / Lead Design Engineer**

**9** Years of Aviation Experience – Design and Construction

**27** Airports, **\$120** million in Improvements

Experience at Sugar Land Regional

Parallel Taxiway A Relocation

Corporate 1 Hangar

# WHY ARE WE HERE?

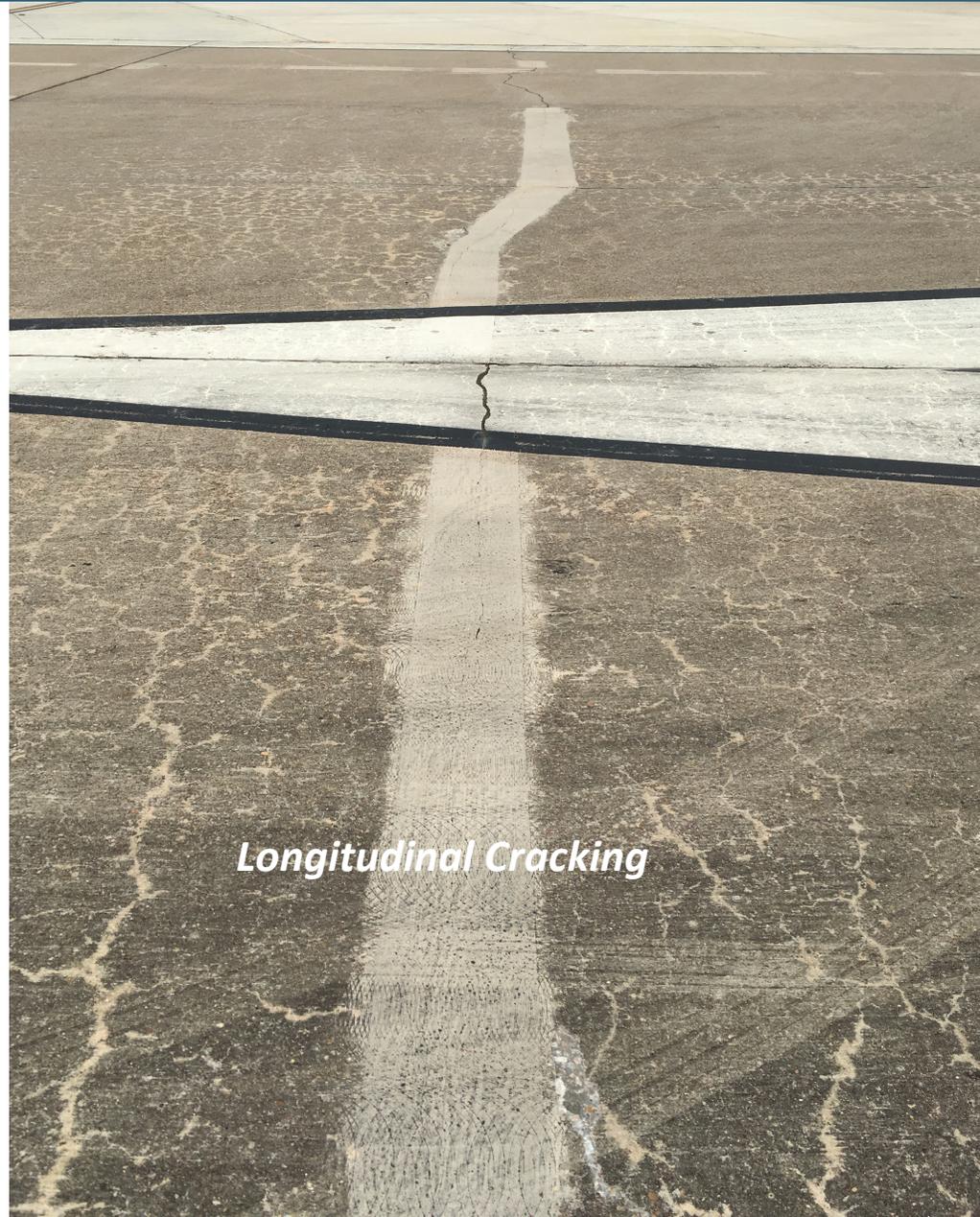
# Runway 17/35

The pavement has reached the end of its useful life.

# RUNWAY 17/35 FAILURES



*Spalling*



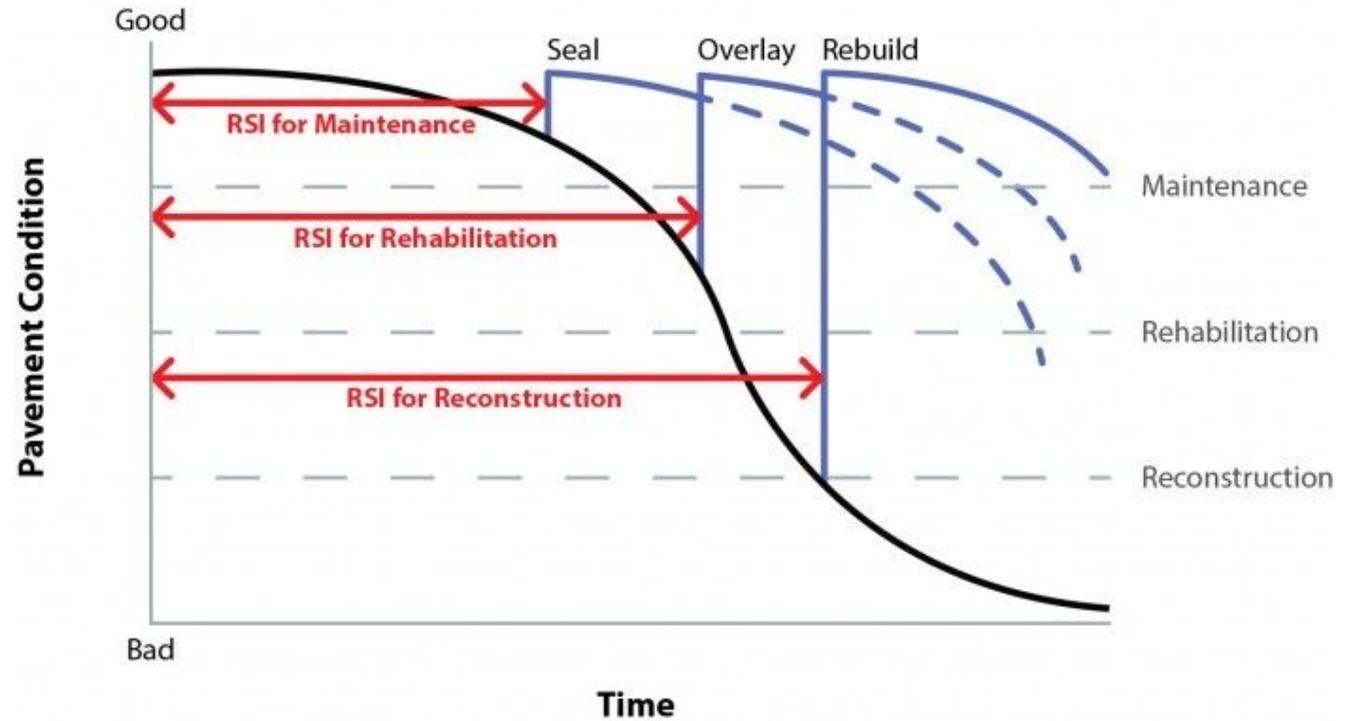
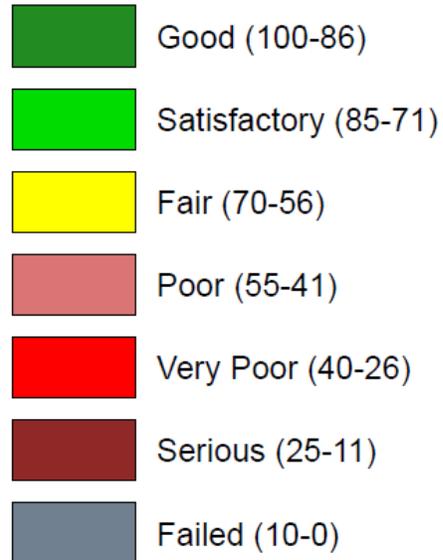
*Longitudinal Cracking*



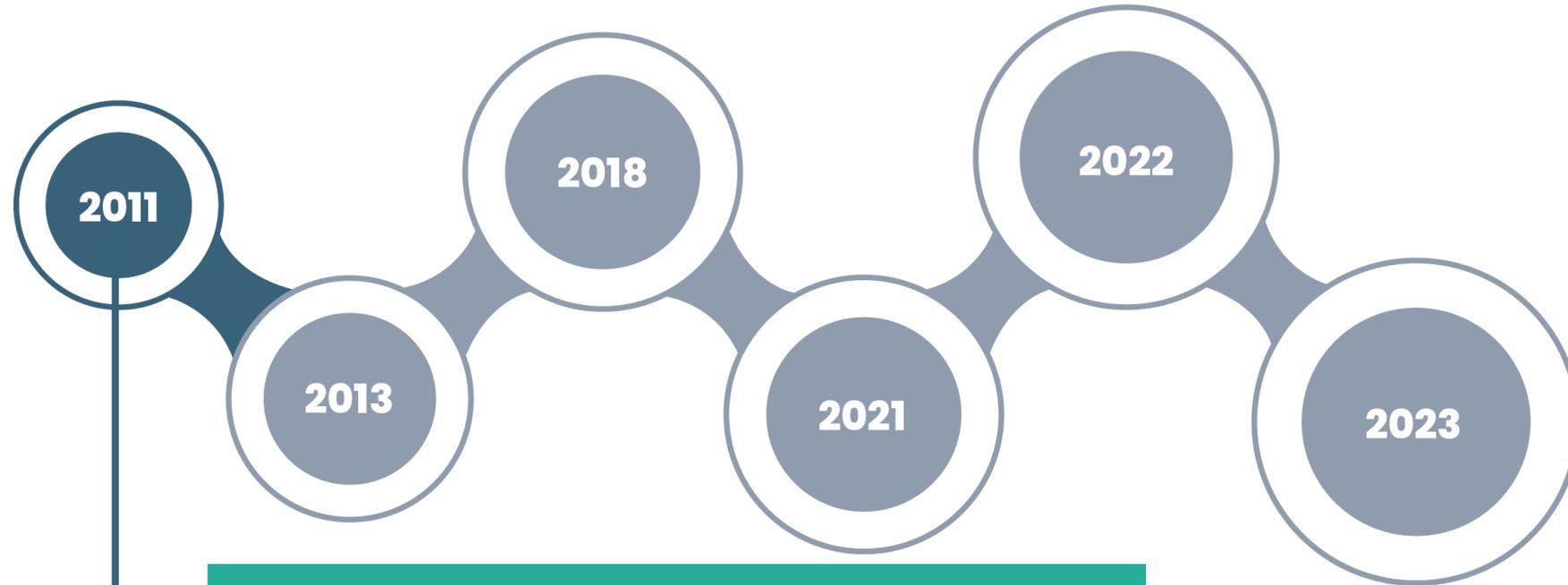
*Joint Failure/Spalling*

## Pavement Condition Index (PCI)

PCI



## RUNWAY 17/35 HISTORICAL TIMELINE

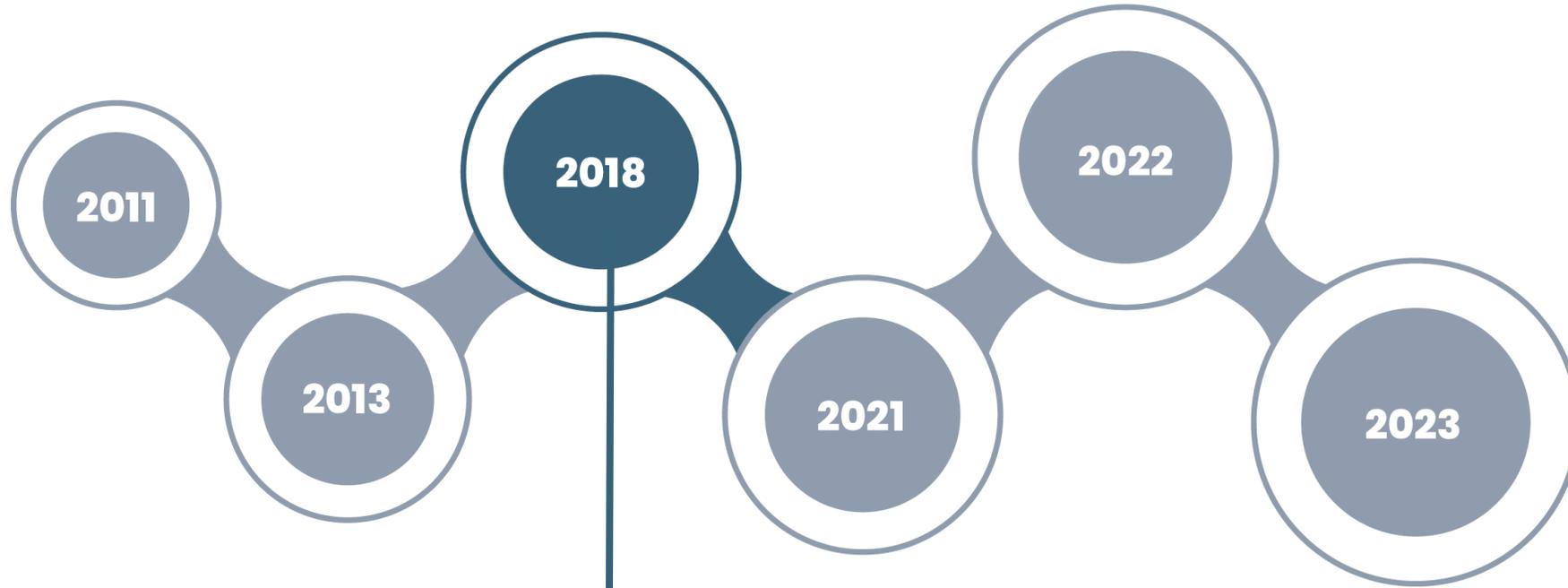


- Pavement Evaluation
- Avg. PCI rating of 28.98 - **“Very Poor”**
- **6 years of remaining life**
- **Pavement rehabilitation** was recommended

## RUNWAY 17/35 HISTORICAL TIMELINE

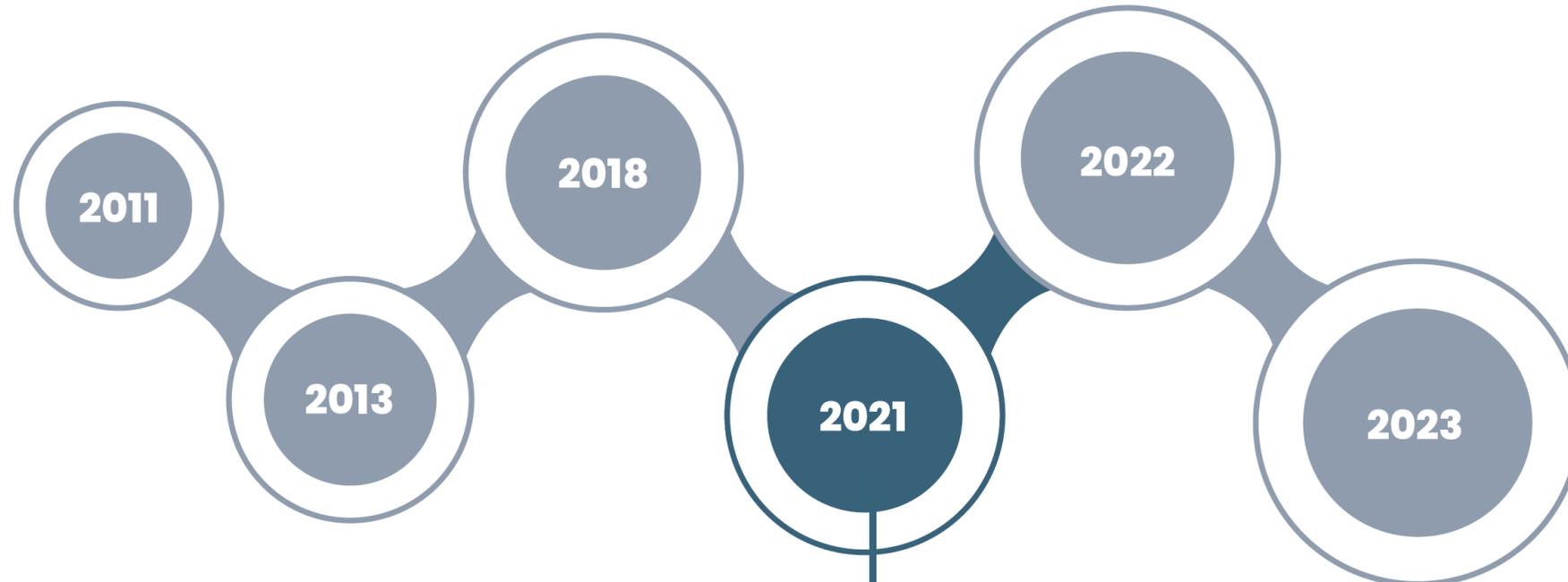


# RUNWAY 17/35 HISTORICAL TIMELINE



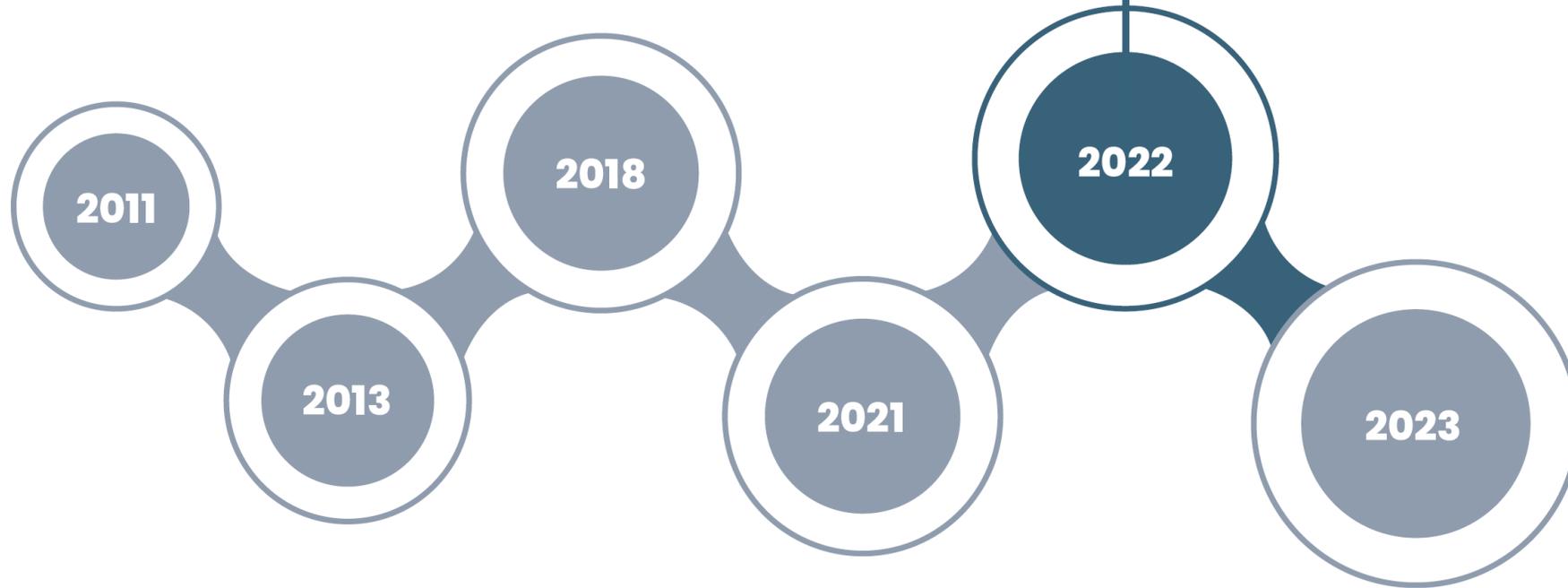
- Texas Transportation Institute Pavement Evaluation
- PCI rating improved to 62 – “Fair”

## RUNWAY 17/35 HISTORICAL TIMELINE

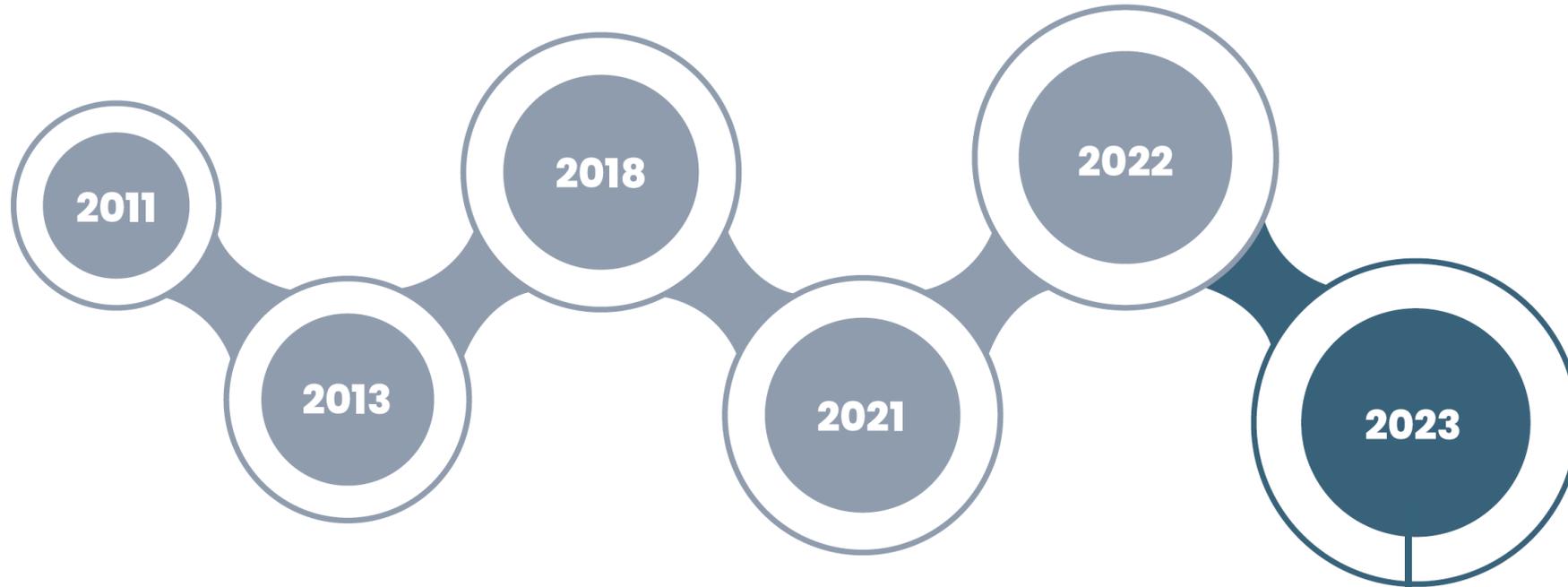


- KSA Updated Pavement Evaluation
- PCI had fallen to 48-56 “Poor”.
- Continued deterioration expected due to increased traffic and loading.
- More aggressive and comprehensive project recommended

# RUNWAY 17/35 HISTORICAL TIMELINE



# RUNWAY 17/35 HISTORICAL TIMELINE



- Consultant Procured for Civil Engineering Design
- Stakeholder Involvement Plan Initiated

# WHAT'S THE PLAN?

# Improve Runway 17/35

Rehabilitate pavement to meet needs of current and future aircraft fleet mix & operations.

# Minimize Impacts

Minimize impacts construction has on airport tenant/user airport operations. (Current and future)

# RUNWAY IMPROVEMENT OPTIONS

|                    | TIME | AFFORDABILITY | MINIMIZE OPERATIONAL IMPACTS | EXISTING PAVEMENT CONDITION | NO ENABLING PROJECTS REQUIRED |
|--------------------|------|---------------|------------------------------|-----------------------------|-------------------------------|
| Reconstruction     | ✗    | ✓             | ✗                            | ✓                           | ✓                             |
| Asphalt Overlay    | ✓    | ✓             | ✓                            | ✗                           | ✓                             |
| Bonded Overlay     | ✓    | ✓             | ✗                            | ✗                           | ✓                             |
| Unbonded Overlay   | ✓    | ✓             | ✗                            | ✗                           | ✓                             |
| Rubblization       | ✓    | ✓             | ✓                            | ✓                           | ✓                             |
| TWA Temporary RW   | ✗    | ✗             | ✓                            | ✓                           | ✗                             |
| West Side NS TW/RW | ✗    | ✗             | ✓                            | ✓                           | ✗                             |

# RUBBLIZATION

Rubblization is the process of fracturing an existing Portland cement concrete pavement (PCCP) into small, interconnected pieces that serve as a base course for a new hot mix asphalt (HMA) overlay.



*FAA Specification P-215*

# Benefits of Asphalt

85% of general aviation runways are constructed with asphalt

- Lower initial cost.
- Higher number of suppliers capable of producing the material.
- Maintenance of asphalt creates less impacts to operations.
- Capable of being opened to traffic more quickly. Cooling time for asphalt (multiple hours) versus curing time for concrete (multiple weeks).
- Less impacted by weather and temperatures during installation.
- Smoother rideability.
- Increased skid protection.

# Airport Examples

## SUGAR LAND

- Single Runway – Concrete
- Pavement Strength: DW – 120,000 lbs., 2D – 200,000 lbs., 2D/2D2 – 600,000 lbs., SW – 80,000 lbs.
- Based Jets: 37
- Operations/Year: 87,485

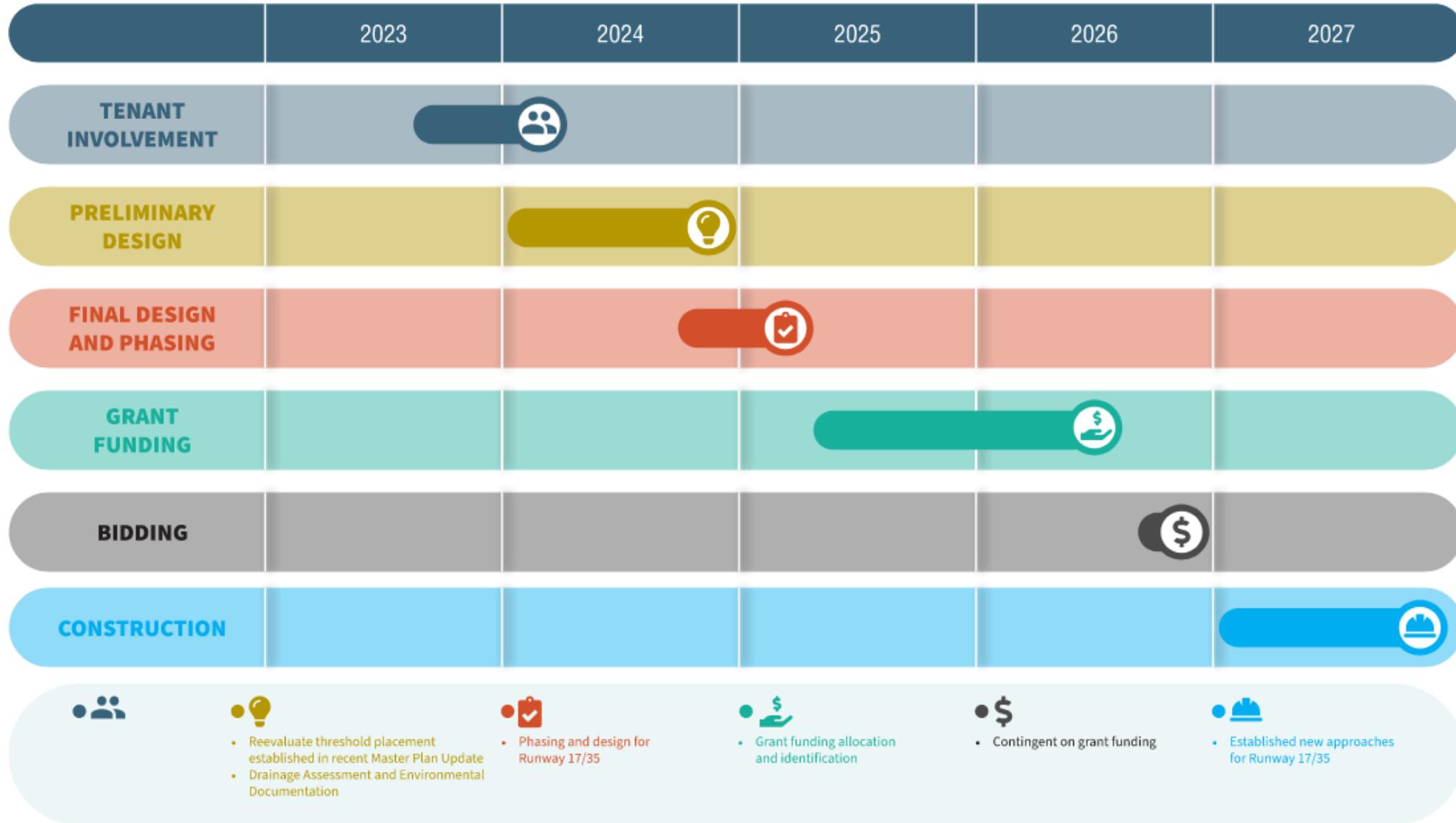
## TEXAS

- Addison
  - Single Runway – Asphalt
  - Pavement Strength: DW – 120,000 lbs., SW: 60,000 lbs.
  - Based Jets: 163
  - Operations/Year: 119,065
- Denton Enterprise
  - Dual Runway – Asphalt
  - Pavement Strength (18L/36R): DW – 100,000 lbs., SW: 70,000 lbs.
  - Based Jets: 34
  - Operations/Year: 196,034

## NATIONAL

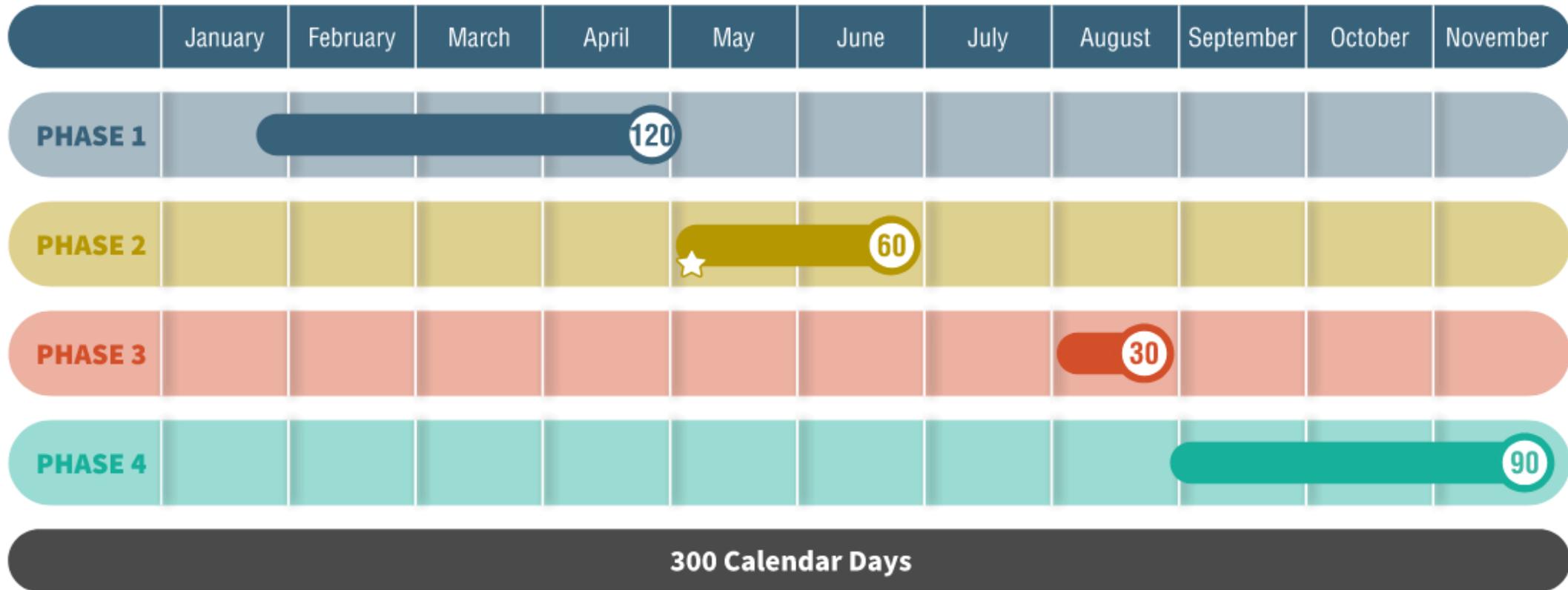
- Phoenix Deer Valley, Arizona
  - Single Runway – Asphalt
  - Pavement Strength: DW – 117,000, SW – 70,000
  - Based Jets: 18
  - Operations/Year: 402,444
- Centennial, Colorado
  - Three Runways– Asphalt
  - Pavement Strength (17L/35R): DW – 75,000 lbs., SW – 56,000 lbs.
  - Based Jets: 182
  - Operations/Year: 349,841
- Rocky Mountain Metro, Colorado
  - Three Runways– Asphalt
  - Pavement Strength (12L/30R): DW/2DW – 105,000 lbs., SW – 65,000 lbs.
  - Based Jets: 43
  - Operations/Year: 281,806

# Tentative Project Schedule



# Tentative Phasing Schedule

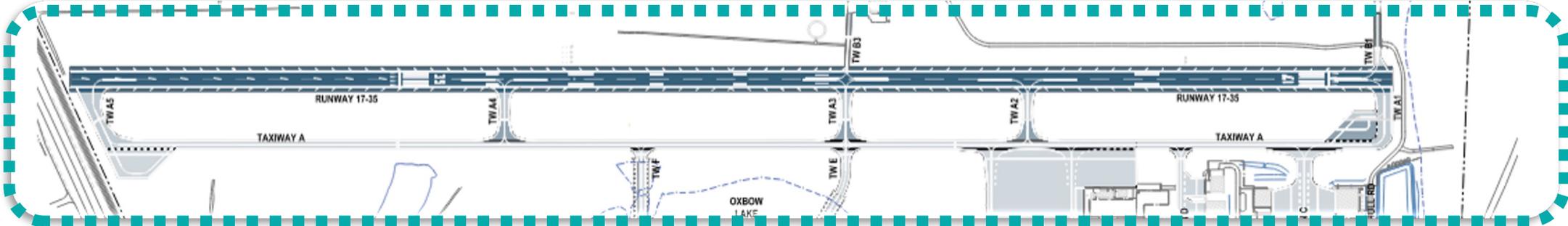
# = No. of Calendar Days



- Runway 17/35 Nighttime closure from 10pm - 6am
- Runway 17/35 Nighttime closure from 10pm - 6am  
Taxiway A5 Closed
- Rubbilization testing early May
- Runway 17/35 Closed
- Runway 17/35 Nighttime closure from 10pm - 6am  
Taxiway A2, A3, and A4 Closed

2027    January    February    March    April    May    June    July    August    September    October    November

PHASE 1    **120**



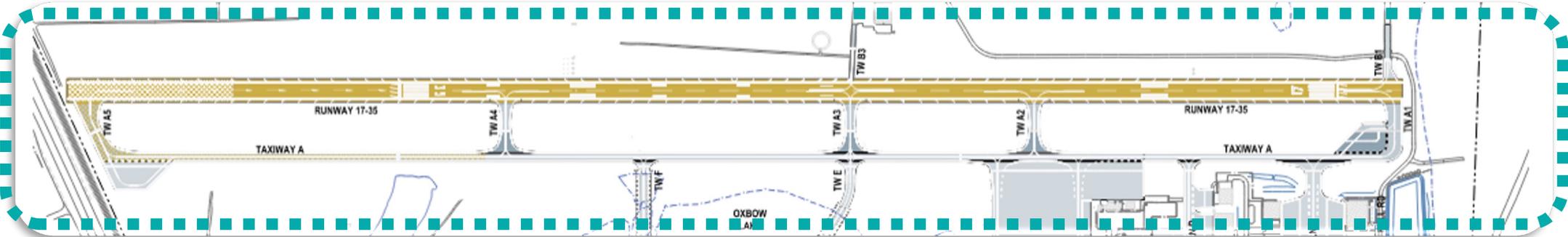
- Open Daily
- Nightly Runway Closure from 10pm – 6am
  - Work in the RSA

# Phase 1 of 4

2027 January February March April May June July August September October November

PHASE 2

★ 60

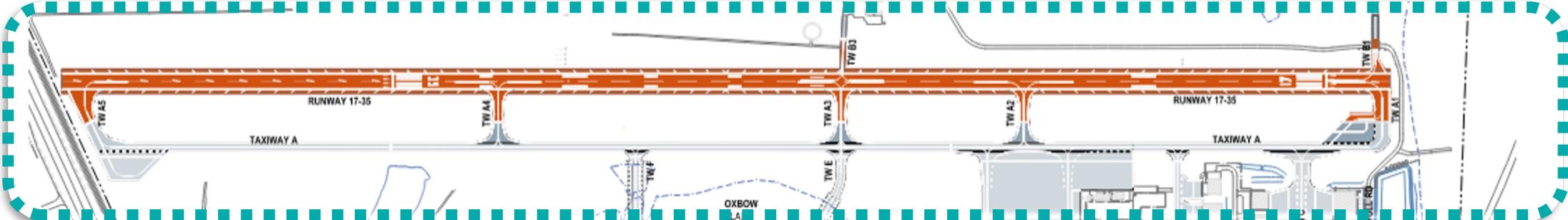


- Open Daily
- Nightly Runway Closure from 10pm – 6am
- Taxiway A5 Closed for duration of phase
- Southern 1,000' of Runway 17/35 closed for rubbalization testing

# Phase 2 of 4

2027 January February March April May June July August September October November

PHASE 3 30



# Phase 3 of 4

- Runway Closed for Duration of Phase
- Taxiways Closed for Duration of Phase

2027

January

February

March

April

May

June

July

August

September

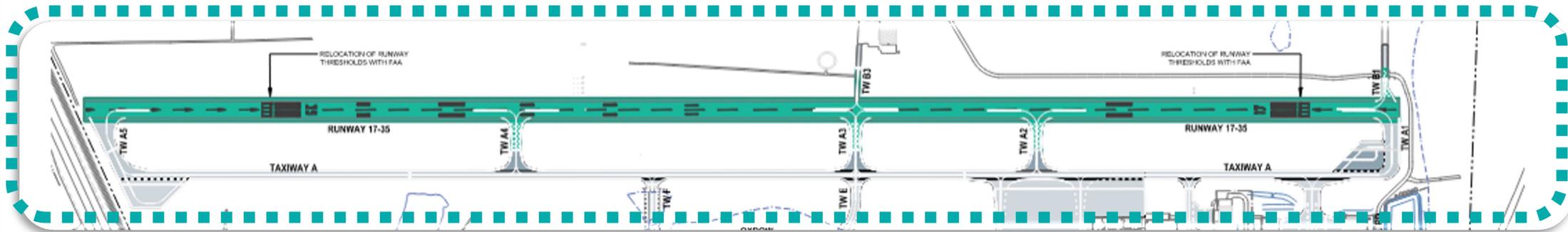
October

November

PHASE 4

90

# Phase 4 of 4



- Open Daily
- Nightly Runway Closure from 10pm – 6am
- Taxiway A4, A3, A2, B1, & B3 Closed for Duration of Phase
  - Taxiways to be opened incrementally

WE NEED YOUR INPUT!

# Phasing Schedule Input

## Phase 1: Nightly Closure Consideration

- Can the closure be extended past 6am?
- Speeds up overall project timeline

## Phase 2: Nightly Closure Consideration

- Can the closure be extended past 6am?
- Speeds up overall project timeline

## Phase 4: Taxiway Closure Consideration

- Which taxiways should be opened incrementally?
- Which connectors would be most beneficial to your operation?



**RUNWAYUPDATE.COM**

## **Welcome to Sugar Land Regional Airport: Project & Construction Updates**

Sugar Land Regional Airport is dedicated to enhancing business operations through world-class services, airfield improvements, and a continuous commitment to clientele. This initiative has led Sugar Land Regional Airport to be the fourth largest airport in the greater Houston area, and the foremost general reliever airport in the southwest sector. As Sugar Land Regional Airport makes enhancements, project and construction updates will be provided on [runwayupdate.com](https://runwayupdate.com).

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# Q & A

Thank you!

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**KSA**





